



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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FEB 27 2014

Ref: 8EPR-N

Mr. Mike Stiewig
Bureau of Land Management
Vernal Field Office
170 South 500 East
Vernal, UT 84078

Re: Monument Butte Draft EIS # 20130374

Dear Mr. Stiewig:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Monument Butte Draft Environmental Impact Statement (Draft EIS) prepared by the Bureau of Land Management (BLM). Our comments are provided for your consideration pursuant to our responsibilities and authorities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609.

Project Description

Newfield Exploration Company proposes to expand their ongoing oil and natural gas development in the Monument Butte field using waterflood methods and deep gas operations. The proposal includes up to 5,750 new gas and oil wells, 750 of which would be converted into waterflood injection wells after approximately three years of production. The proposed action also includes 24 new or expanded compressor stations, construction of a centralized gas processing plant, construction or expansion of 11 water treatment and injection facilities, construction of up to 12 gas and oil separation plants, development of one fresh water collector well, and construction of six water pump stations.

In addition to the proposed action (Alternative A), the EIS analyzes the following alternatives:

- Alternative B, No Action: Development of 241 previously approved wells on BLM-administered lands and development of 547 wells on State and private lands or minerals in the project area, for a total of 788 oil and gas wells.
- Alternative C, Field Wide Electrification: Identical to the proposed action, with the addition of a phased field-wide electrification system that would be integrated into the project area over an estimated 7-year period.
- Alternative D, Resource Protection, BLM's Agency Preferred Alternative: Alternative D minimizes impacts to floodplain, riparian, and wetland habitats and threatened and endangered species by:
 1. Avoiding new surface disturbance within the Pariette Wetlands Area of Critical Environmental Concern (ACEC);

2. Minimizing the amount of new surface disturbance within U.S. Fish and Wildlife Service proposed Level 1 and Level 2 Core Conservation Areas for Uinta Basin hookless cactus and Pariette cactus, both federally- listed threatened species;
 3. Precluding surface disturbance within 100-year floodplain and riparian habitats; and
 4. Adjusting new development based on existing well density in other portions of the project area through the use of directional drilling.
- Alternative D includes 5,058 new oil and gas wells, 1,144 of which would be converted into waterflood injection wells over approximately 10 years.

All alternatives include ancillary facilities similar to the proposed action, scaled according to the anticipated development.

EPA's Comments and Recommendations

The EPA appreciates the many resource protection components designed into the BLM's Preferred Alternative. We are also pleased to see the improvements to the Draft EIS in response to our comments provided in our capacity as a Cooperating Agency. Our remaining concerns include the ozone impact analysis and adaptive management strategy, protection of surface water resources, freshwater consumption, and long-term monitoring of water resources.

1. Ozone Impact Analysis

The BLM has not included project-specific or cumulative ozone modeling for the Monument Butte Project in this Draft EIS. The BLM's decision is supported by several factors. First, under the Air Resource Management Strategy (ARMS), the BLM is developing a Uinta Basin-specific photochemical modeling platform that will provide for an improved ability to accurately model ozone impacts from proposed projects in the Uinta Basin. Second, due to mitigation or control measures that will be implemented, the Proposed Action will not result in a substantial increase in emissions for the first several years of development. Finally, and most importantly, the BLM has included an ozone adaptive management strategy for the Monument Butte project that includes a commitment to conduct project-specific and regional photochemical modeling within one year of the Record of Decision (ROD) or within one year of the ARMS modeling platform becoming available, whichever occurs first. The BLM will then modify mitigation measure requirements if indicated by the model in order to prevent adverse ozone impacts. This will ensure that impacts are appropriately modeled and mitigated prior to emissions from the proposed action becoming substantial.

In the absence of new modeling performed for the Monument Butte Project, the analysis of potential ozone impacts presented in the Draft EIS is based upon a comparison of the Proposed Action to the Greater Natural Buttes (GNB) project, for which a cumulative and project-specific ozone analysis was performed. The document concludes that the Monument Butte Project should have approximately the same impact on ozone as the GNB project, based on similar location, meteorological conditions, drilling and operational techniques, and similar total emissions of ozone precursors. The document states that total emissions for the proposed action includes 16,051 tpy of ozone precursors, while the two alternatives presented for GNB represent impacts from 8,830 tpy and 29,922 tpy ozone precursors. Since the span of the emissions from the two alternatives and projects is great we feel it is more likely that Monument Butte impacts will fall between the two GNB alternatives presented, that is, between a 2.4 ppb to 4.9 ppb summertime increase in ozone. Additionally, due to the complexity of the mechanisms

that form ozone we recommend that emissions are also presented and compared as NO_x and VOC individually. This may affect conclusions on the comparison of impacts between the two projects.

We note that the comparison to the GNB ozone impact analysis underscores the importance of the ozone adaptive management strategy to reduce the potential for adverse air quality impacts in a region already experiencing wintertime exceedances of the ozone National Ambient Air Quality Standards (NAAQS). A critical component of the adaptive management strategy is the BLM's commitment to conduct cumulative and project-specific ozone modeling to more accurately predict potential ozone impacts of the Monument Butte Project and determine whether additional mitigation measures or a reduction in the pace of development are necessary.

2. Ozone Adaptive Management

The EPA supports the inclusion of an adaptive management strategy to address ozone for this project and more broadly within the Uinta Basin. Given known wintertime ozone concerns in the Uinta Basin, the application of enhanced year-round emission reduction measures as well as a seasonal contingency plan are critical to minimize adverse ozone impacts from the proposed project or other similar actions in the Basin. We understand that the BLM considers the trigger (a monitored exceedance of the ozone NAAQS) for adaptive management included in previous NEPA documents to have been met. As a result, the BLM has developed the project-specific enhanced mitigation measures and seasonal contingency plan presented under the adaptive management sections of the Draft EIS. The language in the Draft EIS is somewhat unclear as to the implementation timing of the enhanced measures and seasonal contingency plan. We recommend that the Final EIS state that the mitigation/control strategy, as presented in the Draft EIS, will apply to the project upon issuance of the ROD. We also recommend the Final EIS state that if the future modeling shows the need for further emission reduction strategies, the adaptive management strategy will be modified at that time to capture reductions necessary to maintain air quality.

We have provided additional recommendations in the attached detailed comments to improve the clarity of the adaptive management strategy and its implementation.

3. Mitigation to Protect Surface Water Resources

The Draft EIS acknowledges that contaminants from surface events such as spills, pit and pipeline leaks and nonpoint source runoff from surface disturbance have the potential to enter and impact surface water resources. Consistent with the Vernal Resource Management Plan, the Draft EIS contains a potential mitigation measure stating that "No new surface-disturbing activities would be allowed within active floodplains, public water reserves, or 100 meters of riparian areas unless there are no practical alternatives, impacts will be fully mitigated, or the action is designed to enhance the riparian resources." An additional mitigation measure includes a setback of "a minimum of 200 feet from the active stream channel" for "all tributaries that drain directly to Pariette Draw or directly to the Green River." Our concerns regarding the adequacy of the mitigation measures included in the Draft EIS to protect surface water resources are as follows:

- The proposed mitigation measures will help to protect surface waters from flooded well sites and roads, but do not keep surface disturbing activities at a distance to avoid additional impacts from sediment and associated constituents. In addition to reducing sediment impacts, an increased setback would provide a chance for accidental spills or leaks to be detected and remediated before impacts reach water resources as well as some possibility for natural attenuation to occur.

In the past five years, 30 spills of crude oil and/or produced water from oil and gas field facilities in Utah (including well production sites and in-field gathering/distribution pipelines) were reported to the National Response Center. Of these, seven (or approximately ¼ of reported spills) reached water bodies, despite the limit presence of surface waters. To provide increased protection from these potential risks, we recommend that the BLM expand the buffer distance provided by the mitigation measure to 500 feet.

- It is unclear whether the mitigation measures as written will protect all Waters of the U.S. (WUS). We are concerned that the emphasis on “tributaries that drain directly to Pariette Draw or directly to the Green River” may not provide adequate protection for an area that has predominantly intermittent and ephemeral water bodies, which may drain directly or indirectly to downstream waters and also could be considered WUS. During storm events or other periods where they are actively flowing, these water bodies could transport sediment and other contaminants to more permanent waterways. For that reason, we recommend that the mitigation measure apply to all tributaries (perennial, intermittent and ephemeral) that drain directly or indirectly to downstream waters, lakes, ponds, reservoirs, springs, and wetland and riparian areas.
- The BLM’s proposed mitigation language implies that mitigation is considered as part of the alternative analysis for proposed surface disturbance that may impact WUS. However, for purposes of Clean Water Act Section 404 permitting, mitigation can only be considered after evaluation of practicable alternatives and selection of the least environmentally damaging practicable alternative.

To address the above concerns, we recommend the Final EIS include the following mitigation language: “No new surface-disturbing activities would be allowed within 100-year floodplains; public water reserves; or 500 feet of perennial, intermittent and ephemeral streams, lakes, ponds, reservoirs, springs, and wetland and riparian areas, unless there are no practical alternatives or the action is designed to enhance the riparian resources. Unavoidable impacts will be fully mitigated.”

The EPA supports the additional protections the BLM has included under the Preferred Alternative for the Pariette Wetlands ACEC. Pariette Draw is on Utah’s 2012 Clean Water Act Section 303(d) List and has a completed Total Maximum Daily Load (TMDL). The TMDL specifically calculates the reductions in total dissolved solids (TDS), boron, and selenium in the watershed that are necessary in order for surface water standards to be met. Disturbance of soils in the watershed may contribute to the existing water quality impairments of Pariette Draw. The BLM’s restriction that no new surface disturbance or well pad expansions will be allowed on federal lands within the ACEC (which includes the entire Pariette Draw stream channel and downstream riparian areas) will minimize the mobilization of sediment (and associated constituents) and thereby reduce the potential for an additional load of TDS, boron and selenium to Pariette Draw.

4. Water Consumption

Due to the high water needs associated with enhanced oil recovery techniques, the Monument Butte Project includes considerably greater water requirements than other recent oil and gas development projects in the Uinta Basin. As such, we support the proposal in the Draft EIS to obtain 40% to 50% of water needed for enhanced oil recovery operations from recycled sources. We understand that produced water available from production within the Monument Butte field is not anticipated to exceed 40% to 50% of the water needs for the waterflooding operations. However, produced water from other fields or other recycled water sources may be available or become available during the life of the project. For

example, based on the Gasco EIS it appears there is likely to be a surplus of produced water in the Gasco field immediately south of the Monument Butte field. To further reduce the consumptive use of fresh water, we recommend that the operator be encouraged to seek additional sources of produced water.

5. Water Resource Monitoring

The EPA supports the inclusion of a long-term water resource monitoring plan to detect any unanticipated impacts to surface or groundwater resources in the project area. We understand that the plan provided in Appendix H of the Draft EIS is an example and that monitoring locations will be identified and the plan finalized, with input from the EPA and the State of Utah, prior to release of the Final EIS. We are providing some initial feedback regarding sampling locations in the attached detailed comments, and look forward to working with you to finalize the monitoring plan.

The EPA's Rating

Based on our review, the EPA is rating the Draft EIS Preferred Alternative as "Environmental Concerns – Insufficient Information" (EC-2). The "EC" rating means that the EPA's review has identified potential impacts that should be avoided in order to fully protect the environment. The "2" rating means that the Draft EIS does not contain sufficient information for the EPA to fully assess environmental impacts. A description of EPA's rating system can be found at: <http://www.epa.gov/compliance/nepa/comments/ratings.html>.

We appreciate the opportunity to comment on this document and hope our suggestions for improving it will assist you with preparation of the Final EIS. We would be happy to meet to discuss these comments and our recommendations. If you have any questions or requests, please feel free to contact either me at 303-312-6704 or Molly Vaughan of my staff at 303-312-6577 or by email at vaughan.molly@epa.gov.

Sincerely,



Philip S. Strobel
Acting Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

EPA's Detailed Comments on the Monument Butte Draft EIS

1. Air Quality

Consistency Across Draft EIS Sections

The BLM's adaptive management strategy is discussed in three separate sections of the document. We recommend that the introductory discussion of adaptive management in Chapter 4, Section 4.2.1.1.6, match the discussion in Chapter 2, Section 2.2.11, which outlines the rationale for requiring the adaptive management strategy, the emission inventory that will be prepared each year, and the requirement to complete future modeling and modify the strategy as necessary. Using the language in Section 2.2.11 throughout the Draft EIS will prevent confusion that may arise as to the reason, or trigger, for adaptive management.

We also recommend that the specific components of the adaptive management strategy be made consistent between Section 2.2.11, Section 4.2.1.1.6, and Table 2.1-1. We recommend that the additional adaptive management language included in Table 2.1-1 (the third and fourth bullets under the Clean Air Act and the Federal Land Policy and Management Act on page 2-6 and 2-7) be also incorporated into the other adaptive management sections. The third bullet states that NO_x and VOC emission estimates in the annual emission inventory will be refined over time, that new modeling will include the refinements along with feasible Best Available Control Technology (BACT), and that modeling will include a sensitivity analysis to determine appropriate reductions in ozone precursor emissions. The fourth bullet outlines implementation of any necessary control strategies or the need for reductions in the pace of development to ensure ambient air quality standards are met. We believe both provisions are important to the BLM's strategy.

Implementation of the Ozone Adaptive Management Strategy

In the introductory discussion of the adaptive management strategy in Section 2.2.11 (page 2-29) the Draft EIS states that, "Once a basin-wide control plan is developed and approved by UDAQ and/or EPA, BLM will review these enhanced mitigation requirements and may add, delete, or otherwise modify these requirements to conform to the requirements or recommendations of a regulatory basin-wide management plan." If such a regulatory plan is implemented in the future we recommend that BLM give careful consideration as to whether it is appropriate to delete emission reduction strategies from the project that have been included in the Final EIS and ROD. Removing emission reduction requirements may have unintended consequences that may not be considered during the creation of a basin-wide control strategy. It is not uncommon for NEPA decisions to include mitigation or applicant committed emission reduction strategies that go beyond state and federal regulation. We recommend that the BLM's adaptive management strategy also include consideration for any non-regulatory, basin-wide control strategies that may be developed.

To improve the implementation effectiveness of the enhanced inspection and maintenance program we suggest a minor change to the current language that outlines the frequency of inspections on production sites. The current language would require annual inspection on sites based upon "PTE (potential to emit) limits considered significant to ozone formation (determined by operator)." While sources with PTE limits may be beneficial sites for inspection we believe this terminology may omit a significant number of sites that do not have significant PTE limits, but do have the potential to emit significant fugitive VOC emissions. Therefore, we recommend that the annual FLIR inspection for production sites with

tank controls, compressor stations, and gas plants be based on facilities and equipment with the highest potential for fugitive VOC emissions. This change focuses on inspecting sources that may have the largest possible reduction in emissions rather than relying on PTE limit calculations that may or may not take into account potential fugitive VOC sources that could be addressed through this effort.

Ozone Precursor Reduction Strategy

We recommend that information presented in the introduction of the adaptive management strategy in Chapter 2, Section 2.2.11, be amended to more accurately disclose the current understanding of the science surrounding formation of winter ozone in the Uinta basin. Specifically, there is uncertainty in the statement that, “studies to date are indicating that volatile organic compound (VOC) controls and seasonal response plans are the most promising avenues to address winter ozone formation.” Final results from the 2013 Uinta Basin Ozone Study are not yet available. Preliminary results indicated that VOC emissions reductions are likely to be beneficial; however, photochemical model simulations will be needed to assess the relative effectiveness of VOC and NO_x controls and to assess how the ozone response might vary spatially across the basin. While VOC controls may prove to be effective, NO_x is also a precursor to ozone formation, and increases in NO_x emissions may cause or contribute to exceedances of the ozone NAAQS. Currently we believe that seasonal pollution control measures, work practices and year-round applicant committed measures, reducing not only VOC but NO_x as well, are appropriate to address air quality concerns, including ozone, in the Uinta basin. In characterizing the current information from Uinta Basin ozone studies to date, we recommend stating that current studies indicate that high levels of VOC are found throughout the Uinta Basin, which may be significantly contributing to high winter ozone episodes.

Due to the potential for NO_x emissions to contribute to ozone formation, we are pleased to see the operator’s commitment to use Tier II drill rig engines with a phase-in of Tier IV engines or equivalent emission reduction technology by 2018. We recommend that the BLM additionally consider whether any level of electrification of the field, analyzed field-wide in Alternative C, could be employed in the Preferred Alternative to further reduce NO_x emissions.

2. Long-Term Monitoring Plan for Water Resources

We look forward to working with you to finalize the water resource monitoring plan and offer the following initial feedback regarding sampling locations:

- From the discussion in H.3.1 Surface Water Monitoring and Figure H-1, it is not clear where the potential proposed monitoring sites are located. If the potential sites are the same as those labeled “stream gaging sites,” then it appears that only one is located within the project area and none are located downstream of the entire project area. We recommend the addition of downstream sites so that impacts from the entire project area can be monitored. At a minimum, we recommend one monitoring site on the Green River downstream of the entire project area.
- In addition to storm event sampling at existing STORET sites and the Green River, it would be useful to have monitoring sites in a few dry washes within the project area as described in the Gasco LTMP. This may help differentiate the contribution from storm events in various parts of the project area. Because not all areas are equal in terms of soil erosion potential based on varying topography, soil conditions and project activities, this information could be useful for targeting mitigation measures to enhance effectiveness.

Some suggestions for storm sampling sites within 100-year floodplain include: 1) The draw exiting the project area in the NE corner of T8SR16E, 2) Just upstream of the next downstream convergence from STORET monitoring site in T8SR18E close to line with T9SR18E, 3) In the draw just upstream of Green River in SE corner of T9SR19E and 4) SE corner of T9S R18E before convergence with Green River. These are suggested areas that need refinement based on proximity to roads, topography and other considerations.

- We appreciate the inclusion of aquatic habitat and geomorphology to the list of water quality parameters and recommend that this requirement be refined to provide additional clarity on what will be sampled.